(No Model.)

T. A. EDISON.

PHONOGRAPH.

No. 406,570. Patented July 9, 1889.

FIG. 1

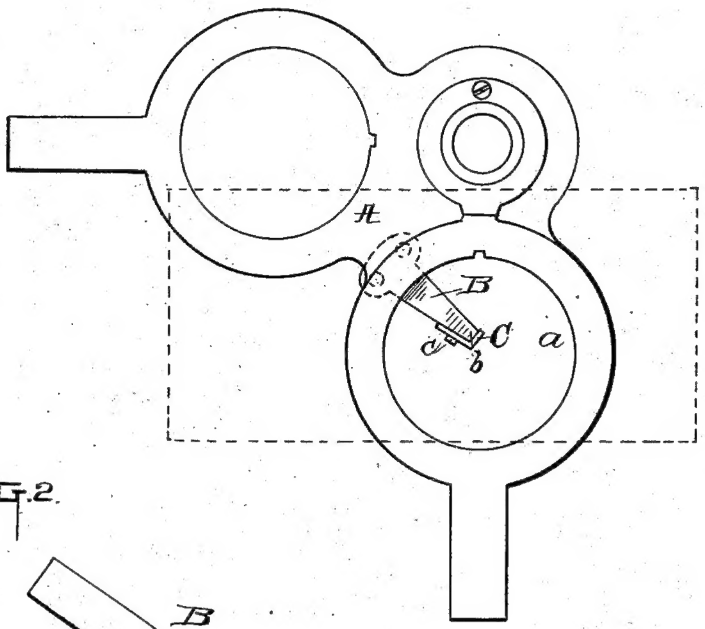


FIG. 2

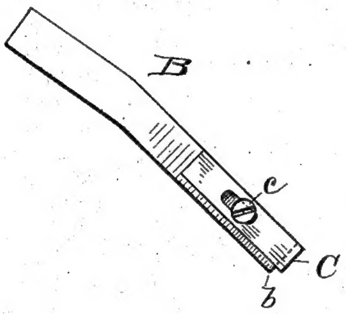
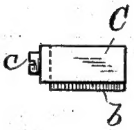


FIG. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF LLEWELLYN PARK, NEW JERSEY.

PHONOGRAPH.

SPECIFICATION forming part of Letters Patent No. 406,570, dated July 9, 1889.

Application filed February 11, 1889. Serial No. 299,452. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. EDISON, a citizen of the United States, residing at Llewellyn Park, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in Phonographs, (Case No. 820,) of which the following is a specification.

The object I have in view is to prevent wholly or in a measure the effect of the electrification of the chips which are produced by turning off the surface of the phonogram-blanks. I use for my blanks a hard composition—such as a hard metallic soap—and this composition, as well as all hard wax compositions, produces in turning chips which have a high degree of electrification, and which adhere to the cylinder and to the cutting-knife, as well as to the point of the recorder, and injure the surface of the record produced by the recorder, the recording being performed at the same time that the surface is turned off, as has been made clear by applications for patent already filed by me. I have found that the evil effects of the electrification of the chips will be done away with in a measure by breaking up or powdering the chips as they are produced, and this I accomplish by providing the turning-off knife with a shoe, which breaks or powders the chips into small pieces as they rise from the cutting-edge of the knife.

In the accompanying drawings, forming a part hereof, Figure 1 is a top view of the spectacle-frame of my phonograph, showing the cutting-knife with breaking-shoe in position for operation. Fig. 2 is a side view of the knife, and Fig. 3 is an end view of the knife.

A is the spectacle-frame, in the eye *a* of which is placed the recorder. The turning-off tool B is secured rigidly to the spectacle-frame and projects toward the center of the eye *a* and downwardly toward the surface of the phonogram-blank. The edge *b* of the knife bears obliquely upon the surface of the blank and acts as a turning-tool for turning off the surface of the blank, producing a chip of the material of the phonogram-blank, as will be well understood. The breaking-shoe C is a plate which crosses the end of the knife above the cutting-edge *b*, and is bent at right angles, extending along one side of the knife, to which it is secured by means of a slot and a set-screw *c*, which permit proper adjustment of the breaking-shoe with relation to the cutting-edge *b*. The shoe C, being directly above the cutting-edge and projecting beyond it, forms a shoulder, against which the chips strike as they rise from the cutting-edge, and, the material being brittle, the effect is to powder or break the chips into small particles, which will drop off of the surface into the receptacle provided for the turnings.

What I claim as my invention is—

1. In a phonograph, the turning-off tool provided with a breaking shoe or shoulder for powdering or breaking the chips, substantially as set forth.

2. In a phonograph, the combination, with the turning-off tool, of a breaking-shoe adjustably secured thereto and acting to powder or break the chips, substantially as set forth.

This specification signed and witnessed this 1st day of February, 1889.

THOMAS A. EDISON.

Witnesses:
W. PELZER,
D. H. DRISCOLL.